

WHAT IS CLAIMED IS:**1. A printed circuit board adapted for prototyping comprising:**

a processor module designed on a first portion of the printed circuit board, a second portion of the board being reserved for an input/output (I/O) module to be added at a later time;

a first connector that provides connection of the board to a primary bus of a computer system;

a bridge circuit that bridges the primary bus of the computer system to a secondary bus on the printed circuit board, the secondary bus providing a communication path between the processor module and the I/O module that is to be added at a later time; and

a second connector coupled to the secondary bus to enable a separate I/O card to be connected to the printed circuit board and to serve temporarily as the I/O module of the board to permit prototyping of the processor module in the absence of an I/O module in said second portion of the board.

2. The printed circuit board of claim 1, wherein the processor module is intended to serve as a data router between the I/O module and the computer system.

3. The printed circuit board of claim 1, wherein said processor module comprises a Field Programmable Gate Array (FPGA) that implements program code to be executed by the processor module.

4. The printed circuit board of claim 1, wherein the primary bus of the computer system implements the Peripheral Component Interconnect (PCI) bus architecture, and wherein the first and second connectors, the secondary bus, and the bridge circuit are implemented in accordance with the PCI architecture.

5. The printed circuit board of claim 1, wherein said second connector comprises a straddle mount connector disposed on an upper edge of the card.

6. A method of prototyping an adapter card intended to have an I/O module in a second section of the card, a processor module in a first section of the card, and a first connector for connecting the adapter card to a primary bus of a computer system in which the card will be employed, the method comprising:

(a) providing on the adapter card being prototyped a bridge circuit in communication with the first connector of the adapter card to bridge the primary bus of the computer system to a secondary bus on the printed circuit board, the secondary bus adapted to provide a communication path between the processor module and the I/O module; and

(b) providing on the adapter card a second connector in communication with the secondary PCI bus to enable a separate I/O card to be connected to the adapter card and to serve temporarily as the I/O module of the card to permit prototyping of the processor module in the absence of an I/O module in the second section of the adapter card being prototyped;

(c) connecting a separate I/O card to said second connector; and

(d) operating the adapter card being prototyped with the separate I/O card serving temporarily as the I/O module of the card to test the functionality of the card.

7. The method recited in claim 6, further comprising the steps of:

- (e) removing the separate I/O module from said second connector when testing of the functionality of the adapter card is completed; and
- (f) implementing a permanent I/O module in the second section of the adapter card and removing the second connector from the card, the resulting adapter card comprising a production version of the card.

8. The method recited in claim 6, wherein steps (c) and (d) are repeated with other separate I/O cards to test the functionality of the adapter card with different I/O interface designs.

9. The method recited in claim 6, wherein the primary bus of the computer system implements the Peripheral Component Interconnect (PCI) bus architecture, and wherein the first and second connectors, the secondary bus, and the bridge circuit are implemented in accordance with the PCI architecture.

10. The method recited in claim 6, wherein said second connector comprises a straddle mount connector disposed on an upper edge of the card.

11. A method of prototyping an adapter card intended to have an I/O module in a second section of the card, a processor module in a first section of the card, and a first connector for connecting the adapter card to a primary bus of a computer system in which the card will be employed, the method comprising:

(a) providing on the adapter card being prototyped a bridge circuit in communication with the first connector of the adapter card to bridge the primary bus of the computer system to a secondary bus on the printed circuit board, the secondary bus adapted to provide a communication path between the processor module and the I/O module; and

(b) providing on the adapter card a second connector in communication with the secondary PCI bus to enable a separate I/O card to be connected to the adapter card and to serve temporarily as the I/O module of the card to permit prototyping of the processor module in the absence of an I/O module in the second section of the adapter card being prototyped;

(c) connecting a separate I/O card to said second connector; and

(d) operating the adapter card being prototyped with the separate I/O card serving temporarily as the I/O module of the card to test the functionality of the card; and

(e) repeating steps (c) and (d) with other separate I/O cards to test the functionality of the adapter card with different I/O interface designs; and

(f) determining which I/O interface design is preferred in the functionality of the adapter card; and

(g) implementing a permanent I/O interface in the second portion of the adapter card.